Working Paper No. 196

Capital Adequacy Regime in India: An Overview

Mandira Sarma
Yuko Nikaido

July 2007

INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

Contents

List of Tables

List of Appendix

Foreword

Capital adequacy standards form an integral part of prudential banking sector regulation. Capital standards all over the world are converging at the behest of the Basel Committee on Banking Supervision towards the so called Basel II norms. This paper elaborates on the Indian experience.

India will be implementing the Basel II norms, from March 2008. It is thus worthwhile to take a look at the current scenario and examine the challenges and long term implications of moving towards the new regime. This paper first elaborates the present state of capital adequacy standards in India and then goes on to discuss several related issues and challenges. In doing so it provides an interesting account of India's experience with Basel I and a perspective to the several issues in relation to Basel II.

This study is a part of ICRIER's Financial Sector Research Programme (FSRP), a programme focused on major research issues pertaining to India's financial sector. FSRP was launched in September 2006 and presently focusing on four issues viz. financial inclusion in India, constraints to SME financing, role of monetary authority in a liberalising financial system and management of public debt. As part of FSRP, ICRIER has also established a monthly Financial Sector Seminar Series since October 2006. Among those who have addressed the monthly seminar include leading national and international experts.

I take this opportunity to invite research proposals on financial sector issues under the FSRP. I would like to reiterate ICRIER's preference for collaborative work, as reflected in this paper.

Rajiv Kumar
Director and Chief Executive

July 24, 2007

Abstract

In this paper we present an analytical review of the capital adequacy regime and the present state of capital to risk-weighted asset ratio (CRAR) of the banking sector in India. In the current regime of Basel I, Indian banking system is performing reasonably well, with an average CRAR of about 12 per cent, which is higher than the internationally accepted level of 8 per cent as well as India's own minimum regulatory requirement of 9 per cent. As the revised capital adequacy norms, Basel II, are being implemented from March 2008, several issues emerge. We examine these issues from the Indian perspective.

Key Words: Capital Adequacy Ratio, Basel I, Basel II, Reserve Bank of India, SMEs lending

JEL Classification: G20, G21, G28

1 Introduction*

In its report submitted to the Government of India in December 1991, the Narasimhan Committee on Financial System suggested several reform measures for India's financial system. The Committee recommended gradual liberalization of the banking sector by adopting measures such as reduction of statutory preemptions, deregulation of interest rates and allowing foreign and domestic private banks to enter the system. Along with these, the Committee also recommended adoption of prudential regulation relating to capital adequacy, income recognition, asset classification and provisioning standards. While the liberalization was aimed at bringing about competition and efficiency into India's banking system, the prudential regulation was aimed at strengthening the supervisory system, which is important in the process of liberalization.

In this paper we focus on one particular prudential regulation, i.e. capital adequacy requirement in the banking sector in India. Capital adequacy is an indicator of the financial health of the banking system. It is measured by the Capital to Risk-weighted Asset Ratio (CRAR)[1], defined as the ratio of a bank's capital to its total risk-weighted assets. Financial regulators generally impose a capital adequacy norm on their banking and financial systems in order to provide for a buffer to absorb unforeseen losses due to risky investments. A well adhered to capital adequacy regime does play an important role in minimizing the cascading effects of banking and financial sector crises.

The Narasimhan Committee endorsed the internationally accepted norms for capital adequacy standards, developed by the Basel Committee on Banking Supervision (BCBS).[2] BCBS initiated Basel I norms in 1988, considered to be the first move towards risk-weighted capital adequacy norms. In 1996 BCBS amended the Basel I norms and in 1999 it initiated a complete revision of the Basel I framework, to be known as Basel II. In pursuance of the Narasimhan Committee recommendations, India adopted Basel I norms for commercial banks in 1992, the market risk amendment of Basel I in 1996 and has committed to implement the revised norms, the Basel II, from March 2008.

In this paper we present an analytical review of the current capital adequacy norms in India's banking system vis-à-vis the Basel framework. This paper also attempts to examine issues and challenges with regard to the implementation of CRAR norms under

---

* Mandira Sarma, Fellow, ICRIER (mandira@icrier.res.in); Yuko Nikaido, Faculty of Economics, Musashi University, Japan (nikaido@cc.musashi.ac.jp)

The authors thank Jesim Pais, Amitendu Palit and Abhijit Sen Gupta for their critical comments and valuable suggestions. Corresponding author: Mandira Sarma. Yuko Nikaido's research is funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) Grant-in-Aid for Young Scientist (B) 17730179.

[1] CRAR is also called Capital Adequacy Ratio (CAR).

[2] BCBS was established in 1974 by the central bank Governors of the Group of Ten countries. In 2007, BCBS has 13 member countries – Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom and the United States. The Committee provides a forum for cooperation between its member countries on issues relating to banking supervision. However, its recommendations do not have legal force.

Basel II regime in India. The paper tries to identify limitations, gaps and inadequacies in the Indian banking system which may hamper the realization of the potential benefits of the new regime. In other words, the paper attempts to examine whether the costs imposed by implementing the new regime will be adequately compensated by an improvement in the system.

While the literature on Basel framework is burgeoning, studies particularly dealing with India are limited.[3] This paper attempts to fill the gap. First we discuss in brief Basel I, market risk amendment of Basel I and Basel II. Then we present the current state of affairs with respect to capital adequacy ratio in India. Finally we discuss a few issues and emerging challenges for the Indian banking system in the wake of Basel II.

2 Progress of international capital adequacy norms

The international financial community has witnessed several significant developments in the area of risk management and banking supervision over the last two decades. In 1988, BCBS introduced risk-based capital adequacy norms through Basel I accord (BCBS 1988). Basel I mainly incorporated credit risk in calculating the capital adequacy norms of banks. It recommended a bank's regulatory capital at 8 per cent of its risk-weighted asset, where assets were risk-weighted according to their credit risk. In 1996, an amendment was made to Basel I to incorporate market risk in addition to credit risk in the weighing scheme (BCBS 1996). In July 1999, BCBS initiated the process of replacing the current framework with a revised version, the Basel II. After several rounds of discussions, consultations and deliberations within the global financial and banking institutions, Basel II has evolved as a revised and comprehensive framework for prudential regulations to replace the current Basel I framework.

In 2007, more than 100 countries are following Basel I norms.[4] As far as Basel II is concerned, a survey by Financial Stability Institute (FSI) of the Bank for International Settlement in 2006 revealed that 95 countries intended to adopt Basel II, in some form or the other, by 2015. Out of these countries, the 13 BCBS member countries have initiated Basel II implementation process in 2007.

An overview of Basel I, market risk amendment of Basel I and Basel II

Basel I: Basel I is a framework for calculating 'Capital to Risk-weighted Asset Ratio' (CRAR). It defines a bank's capital as two types: core (or tier I) capital comprising equity capital and disclosed reserves; and supplementary (or tier II) capital comprising items such as undisclosed reserves, revaluation reserves, general provisions/general loan-

[3] Some studies that have addressed certain specific issues of Basel II from an Indian perspective are Ghosh and Nachane (2003), Nitsure (2005), Nachane et al. (2006).

[4] The Basel norms are voluntary and legally non-binding on all countries, including the 13 member countries of BCBS. However, studies have identified that the simplicity of the Basel I norms and IMF's Financial Sector Assessment Programme that emphasizes compliance of Basel I norms could be two important factors that have led to more than 100 countries adopting the Basel I norms (Bailey 2005, Reddy 2006).

loss reserves, hybrid debt capital instruments and subordinated term debt. Under Basel I, at least 50 per cent of a bank's capital base should consist of core capital. In order to calculate CRAR, the bank's assets should be weighted by five categories of credit risk – 0, 10, 20, 50 and 100 per cent. For example, if an asset is in the form of cash or claims on central governments, it will get a risk weight of zero, if it is in the form of a claim on domestic public sector entities, then it will get a risk weight of 10, 20 or 50 per cent at the discretion of the national supervisory authority. Claims on the private sector will get a risk weight of 100 per cent. Table A1 in the Appendix provides the risk weights for different asset classes under Basel I.

Market risk amendment: In 1996, an amendment was made to Basel I to incorporate market risk, in addition to credit risk, in the calculation of CRAR. To measure market risk, banks were given the choice of two options:[5]

1. A standardized approach using a building block methodology

2. An 'in-house' approach allowing banks to develop their own proprietary models to calculate capital charge for market risk by using the notion of Value-at-Risk (VaR).

These approaches, however, calculated the capital charges for market risk and not the risk-weighted asset. Therefore, this measure of capital charges would have to be multiplied by a factor 12.5 (reciprocal of 8 per cent, the minimum regulatory capital adequacy ratio) and then added to the risk-weighted assets computed for credit risk. In the calculation of CRAR, the numerator will be the sum of the bank's tier I and tier II capital (tier II capital should be limited to a maximum of 100 per cent of tier I capital), plus a tier III capital introduced in the 1996 amendment to support market risk.

Basel II: Basel II is a much more comprehensive framework of banking supervision. It not only deals with CRAR calculation, but has also got provisions for supervisory review and market discipline. Thus, Basel II stands on three pillars:

1. *Minimum regulatory capital (Pillar 1):* This is a revised and extensive framework for capital adequacy standards, where CRAR is calculated by incorporating credit, market and operational risks.

2. *Supervisory review (Pillar 2):* This provides key principles for supervisory review, risk management guidance and supervisory transparency and accountability.

3. *Market discipline (Pillar 3):* This pillar encourages market discipline by developing a set of disclosure requirements that will allow market participants to assess key pieces of information on risk exposure, risk assessment process and capital adequacy of a bank.

[5] For details on these approaches see BCBS (1996).

Minimum Regulatory Capital under Basel II

Under Basel II, CRAR is calculated by taking into account three types of risks: credit risk, market risk and operational risk. The approaches for each one of these risks is described below.

Credit risk: There are two approaches for credit risk, viz., the Standardized Approach (SA) and the Internal Ratings Based (IRB) approach. In SA, credit risk is measured in the same manner as in Basel I, but in a more risk sensitive manner, i.e. by linking credit ratings of credit rating agencies to risk of the assets of the bank. This, according to BCBS, is an improvement over Basel I, where categorization of the assets into five risk-weight categories was an ad hoc categorization. BCBS has provided an example of how risk weights can be linked with the credit ratings. The responsibility of providing the risk-weights corresponding to various assets, under SA, lies with the supervisory authority of a country. As far as the IRB approach is concerned, banks will be allowed to use their internal estimates of credit risk, subject to supervisory approval, to determine the capital charge for a given exposure. This would involve estimation of several parameters such as the probability of default (PD), loss given default (LGD), exposure at default (EAD) and effective maturity (M) corresponding to a particular debt portfolio.

Market risk: As far as market risk is concerned, Basel II retains the recommendations of the 1996 Amendment.

Operational risk: Basel II has introduced a new kind of risk, called the 'operational risk' in calculating CRAR. It is defined as *"the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events."* In order to calculate the capital charges for operational risk, three approaches – Basic Indicator Approach (BIA), Standardized Approach (SA) and Advanced Measurement Approaches (AMA) – have been suggested. In the BIA, an estimate of the capital charge for operational risk is provided by averaging over a fixed percentage of positive annual gross income of the bank over the previous three years.[6] In this estimate, negative incomes are excluded. Under SA, at first the bank's business activities are divided into eight business lines. For each business line, a capital charge is calculated by multiplying the gross income of the business line by a factor.[7] A capital charge for each business line is thus calculated for three consecutive years. The overall capital charge is calculated as the three-year average of the simple summation of the charges across business lines in each year. Under AMA, a bank can, subject to supervisory approval, use its own mechanism for determining capital requirement for operational risk.

3 Capital adequacy standard in India

In India, at present, there is a 'three track' approach for Basel compliance – the commercial banks are Basel I compliant with respect to credit and market risks; the urban

---

[6] This has been currently fixed at 15 per cent.

[7] This factor is called the β factor, and pre-fixed by BCBS for each business line. For more, refer to BCBS (2006).

cooperative banks maintain capital for credit risk as per Basel I and market risk through surrogate charges; and the rural banks have capital adequacy norms that are not on par with the Basel norms (Leeladhar 2006, Reddy 2006). The three track approach is justified by the necessity to maintain varying degree of stringency across different types of banks in India reflecting different levels of operational complexity and risk appetite. The three track approach is also justified in order to ensure greater financial inclusion and for an efficient credit delivery mechanism (Reddy 2006).

India adopted Basel I norms for scheduled commercial banks in April 1992, and its implementation was spread over the next three years. It was stipulated that foreign banks operating in India should achieve a CRAR of 8 per cent by March 1993 while Indian banks with branches abroad should achieve the 8 per cent norm by March 1995. All other banks were to achieve a capital adequacy norm of 4 per cent by March 1993 and the 8 per cent norm by March 1996.[8]

In its mid-term review of Monetary and Credit Policy in October 1998, the Reserve Bank of India (RBI) raised the minimum regulatory CRAR requirement to 9 per cent, and banks were advised to achieve this 9 per cent CRAR level by March 31, 2000.[9] Thus, the capital adequacy norm for India's commercial banks is higher than the internationally accepted level of 8 per cent.[10]

The RBI responded to the market risk amendment of Basel I in 1996 by initially prescribing various surrogate capital charges such as investment fluctuation reserve of 5 per cent of the bank's portfolio and a 2.5 per cent risk weight on the entire portfolio for these risks between 2000 and 2002. These were later replaced with VaR-based capital charges, as required by the market risk amendments, which became effective from March 2005. India has gone a step ahead of Basel I in that the banks in India are required to maintain capital charges for market risk on their 'available for sale' portfolios as well as on their 'held for trading portfolios' from March 2006 while Basel I requires market risk charges for trading portfolios only.

The RBI has announced the implementation of Basel II norms in India for internationally active banks from March 2008 and for the domestic commercial banks from March 2009. Before we go into details of several issues facing the banking industry in India in the wake of Basel II, we briefly describe the current state of affairs with respect to capital adequacy of India's banking industry.

---

[8] In the first stage of the application of capital adequacy norms and prudential accounting standards, the Government of India contributed Rs. 5,700 crore as equity to recapitalize nationalised banks during 1993-94 in order to enable all nationalised banks to meet the initial CRAR requirement of 4 per cent by the stipulated time.

[9] This was done following the recommendation of the Narasimhan Committee on Banking Sector Reforms, also known as the Second Narasimhan Committee which submitted its report in April 1998.

[10] Many other countries have also prescribed a higher capital adequacy norm. For example, the capital adequacy norm is 8.5 per cent in Thailand, 9 per cent in Bangladesh, 10 per cent in South Africa and Sri Lanka, 11 per cent in Brazil, 12 per cent in Singapore. In China the minimum requirement is 8 per cent.

The present state of capital standards for commercial banks in India

The scheduled commercial banks in India are categorized into the following groups: nationalised banks, other public sector banks, State Bank of India (SBI) group, Indian private banks (further categorized as old private banks and new private banks) and foreign banks. Sometimes the first two categories are clubbed together as there is only one bank in the category 'other public sector bank', the Industrial Development Bank of India (IDBI) bank. The first three categories are commonly known as public sector banks. At the end of March 2006, there were altogether 84 banks operating in India, consisting of 20 nationalised banks (including IDBI bank), 8 banks in SBI group, 19 old private banks, 8 new private banks and 29 foreign banks. The ratio of total assets of the commercial banks to the GDP of India stood at 86.9 per cent at end-March 2006. At the end of March 2006, the share of public sector banks in the total banking assets of the country stood at 72.3 per cent.[11] Old and new private banks together constituted about 20 per cent, while foreign banks accounted for 7.2 per cent of the total banking assets of India in March 2006.

Table 1 provides yearly frequency distribution of different bank groups by their CRAR levels for the period 1996-2006. As shown in the table, by the end of March 1997, all but 2 nationalised banks and 4 private banks were short of meeting the capital adequacy norm. The SBI group and the foreign banks had achieved the minimum regulatory norm by March 1997. Although a few banks were having negative CRAR during 2000-02, all banks achieved the minimum regulatory level by 2006. As shown in Table 1, majority of the banks in all bank categories have achieved a CRAR level of more than 10 per cent by March 2006, indicating good financial health of the banking industry, in terms of capital adequacy norms, over the recent years.

The average level of CRAR for the Indian banking groups for the period 1999-2006 is presented in Table 2. As shown by this table, the average CRAR level for the banking industry has stood consistently between 11 and 12 per cent during 1999-2006, which is much higher than the current minimum regulatory requirement of 9 per cent and the international minimum requirement of 8 per cent.

As seen from Table 2, overall CRAR for the banking system has marginally declined since 2005. Between 2004 and 2005, the overall CRAR declined by 0.1 percentage points and between 2005 and 2006, this decline was by 0.5 percentage points. Bank group wise, between 2004 and 2005, 'old private banks' recorded the highest decline of 1.2 percentage points in CRAR followed by a 1 percentage point fall for SBI group and the foreign bank group each. The 'new Private Banks' recorded a rise of 1.9 percentage points in CRAR and the nationalised banks recorded a rise of 0.1 percentage points. The net result was a marginal decline in CRAR for the banking system as a whole. RBI attributed this decline to the *increase in total risk-weighted assets relative to the capital, for the first time since March 2000* (RBI 2005b). The increase in risk-weighted assets was due to a higher growth in the loan portfolio of banks and higher risk weights made

[11] This share was at 75.3 per cent at end-March 2005.

applicable for housing loans, the most rapidly increasing component of retail loans for banks.[12]

Following a similar pattern, CRAR levels for all but one banking group recorded a decline between 2005 and 2006. The highest decline of 1 percentage point was observed for 'foreign banks', followed by a decline by 0.8 percentage points for 'nationalised' and 'old private banks', of 0.7 percentage points for 'other public sector bank' (IDBI being the sole member of this group) and a decline by 0.5 percentage points for the SBI group. During this period 'new private banks' showed a rise of 0.5 percentage point in CRAR. The resultant change in CRAR for the banking system as a whole was a decline of 0.5 percentage points. This overall decline in CRAR could be attributed to three factors – (i) higher growth in loan portfolio of banks as compared to investment in government securities, (ii) increase in risk weights for personal loans, real estate and capital market exposure, and (iii) application of VaR-based capital charge for market risk for investment held under 'held for trade' and 'available for sale' portfolios (RBI 2006).[13]

Notwithstanding the overall decline in CRAR recorded successively for the last two years, the CRAR level remains at a satisfactory level of 12.3 per cent at the end of March 2006. As far as the individual banking groups are concerned, IDBI bank (the sole member of the group 'other public sector banks') had the highest CRAR at 14.8 per cent at the end of March 2006, followed by the foreign banks with a CRAR level of 13 per cent, the new domestic private banks with 12.6 per cent and the nationalised banks at 12.4 per cent at the same period. At the end of March 2006, the SBI group has an average CRAR of 11.9 per cent and the old domestic private banks have an average CRAR of 11.7 per cent.

International comparison

Table 3 provides a comparative picture of the capital adequacy ratios of different countries vis-à-vis India's. As shown by this table, CRAR of Indian banking system compares well with many emerging countries such as Korea, Malaysia and South Africa. Countries such as Brazil, Indonesia, Hong Kong, Singapore and Thailand have higher CRAR level than India in 2005 while Japan, Taiwan, the United States and the neighbouring countries of Bangladesh and Sri Lanka have lower CRAR levels than India. In 2005, China's banking system had a CRAR level of less than 8 per cent. According to the official website of the Chinese Government, 74 per cent of China's total banking asset could meet the 8 per cent level in 2006, compared with 0.56 per cent in 2003 when only eight banks complied.[14] Thus, when compared with China, India is at a much better position with respect to capital adequacy.

[12] The core capital for the banks during this period increased from 8.1 per cent in 2004 to 8.5 per cent in 2005 since some banks raised capital from the capital market at substantial premium (RBI 2005b).

[13] Although the overall CRAR declined, the core capital during the period 2005-06 increased from 8.4 per cent to 9.3 per cent due to increased access by banks to primary capital market and also due to transfer of IFR from tier II to tier I capital (RBI 2006).

[14] Chinese Government's official website: http://www.gov.cn/english/2006-11/24/content_45314.htm.

Table 1: Distribution of Indian banks by CRAR (1996-2006)

(Unit: Nos.)

Level	< 4%	4% - MRR	MRR-10%	> 10%	< 4%	4% - MRR	MRR-10%	> 10%
Year	**Nationalized banks 2)**				**SBI group**			
1996-97	2	-	6	11	-	-	3	5
1997-98	1	-	6	12	-	-	1	7
1998-99	1	-	4	14	-	-	-	8
1999-00	1	-	4	14	-	-	-	8
2000-01	1*	1	2	15	-	-	-	8
2001-02	1	1	2	15	-	-	-	8
2002-03	-	-	1	18	-	-	-	8
2003-04	-	-	1	18	-	-	-	8
2004-05	-	-	2	18	-	-	-	8
2005-06	-	-	-	20	-	-	-	8
Year	**Indian private banks (old and new)**				**Foreign banks**			
1996-97	3	1	8	22	-	-	14	24
1997-98	2	2	8	22	-	-	12	30
1998-99	2	2	5	25	1	-	14	29
1999-00	2	2	3	25	-	-	5	37
2000-01	2*	1	5	23	-	-	4	38
2001-02	1*	1	3	25	1*	-	2	37
2002-03	2	-	3	25	-	-	-	36
2003-04	1	1	-	28	-	-	-	33
2004-05	1	1	5	22	-	-	1	30
2005-06	2	-	2	23	-	-	2	27

Note: 1) MRR is Minimum Regulatory Requirement (8% till 1998-99, 9% thereafter)
2) Nationalised banks Include IDBI Bank from 2004-05.
*3) - indicates nil, * indicates negative*
Source: RBI, Reports on Trend and Progress of Banking in India, various issues

Table 2: Average CRAR level of Indian banking groups

(Unit: %)

Year (end March)	Nationalised banks	SBI group	Other public sector bank	Old Pvt. banks	New Pvt. banks	Foreign banks	All banks
1999	10.6	12.3	n.a.	12.1	11.8	10.8	11.3
2000	10.1	11.6	n.a.	12.4	13.4	11.9	11.1
2001	10.2	12.7	n.a.	11.9	11.5	12.6	11.4
2002	10.9	13.3	n.a.	12.5	12.3	12.9	12
2003	12.2	13.4	n.a.	12.8	11.3	15.2	12.7
2004	13.1	13.4	n.a.	13.7	10.2	15	12.9
2005	13.2	12.4	15.51	12.5	12.1	14	12.8
2006	12.4	11.9	14.8	11.7	12.6	13	12.3

Note: n.a. implies not available
Source: RBI, Report on Trend and Progress of Banking in India, 2005-06

Table 3: CRAR level in select countries

(unit: %)

Country	2005	2006
Bangladesh	7.3	
Brazil	18.1	
China	< 8	
Hong Kong	14.9	15.2
India	12.8	12.3
Indonesia	19.5	
Japan	8.9	
Korea	13	13.1
Malaysia	13.6	12.8
Singapore	15.8	15.4
South Africa	13.3	
Sri Lanka	10.8	11.5
Taiwan	10.3	10.3
Thailand	14.2	14.7
US	10.3	

Source: Central Bank websites

4 Implementation of Basel II: the Indian status

The RBI announced in May 2004 that banks in India should examine the options available under Basel II for revised capital adequacy framework. In February 2005, RBI issued the first draft guidelines on Basel II implementations in which an initial target date for Basel II compliance was set for March 2007 for all commercial banks, excluding Local Area Banks (LABs) and Regional Rural Banks (RRBs). This deadline was, however, postponed to March 2008 for internationally active banks and March 2009 for domestic commercial banks in RBI's mid-year policy announcement of October 30, 2006. Although RBI and the commercial banks have been preparing for the revised capital adequacy framework since RBI's first intimidation on Basel II compliance, the complexity and intense data requirement of Basel II have brought about several challenges in its implementation. Given the limited preparation of the banking system for Basel II implementation, this postponement is not surprising.

The final RBI guidelines on Basel II implementation were released on April 27, 2007.[15] According to these guidelines, banks in India will initially adopt SA for credit risk and BIA for operational risk. RBI has provided the specifics of these approaches in its guidelines. After adequate skills are developed, both by banks and RBI, some banks may be allowed to migrate towards more sophisticated approaches like IRB. Under the revised regime of Basel II, Indian banks will be required to maintain a minimum CRAR

[15] Note that the final guidelines from RBI were issued in April 2007, beyond the initial target date of March 2007, giving some indication of the amount of extra preparation that was required even for the RBI.

of 9 per cent on an ongoing basis. Further, banks are encouraged to achieve a tier I CRAR of at least 6 per cent by March 2010. In order to ensure a smooth transition to Basel II, RBI has advised the banks to have a parallel run of the revised norms along with the currently applicable norms.

Tables A2 and A3 in Appendix present the RBI's scheme of risk-weights for different categories of assets to be considered for credit risk under SA of Basel II. For claims in Indian rupees, RBI's guidelines provide risk-weights for direct and guarantee exposures of the Central and State governments, exposures to apex bodies such as RBI, Deposit Insurance and Credit Guarantee Corporation (DICGC), Credit Guarantee Fund Trust for Small Industries (CGTSI) and Export Credit Guarantee Corporation (ECGC), exposures to scheduled commercial banks and other banks, and exposures to corporate with various credit ratings. Apart from these, RBI guidelines also deal with claims in retail portfolios, claims secured by residential property and claims secured by commercial real estate. RBI has also set extensive guidelines on to how to deal with Non-Performing Assets (NPAs) in calculating risk-weighted assets. As far as claims on foreign currency are concerned, RBI has retained the indicative guidelines of Basel Committee, and provided risk weights in accordance with the credit ratings of external credit rating agencies (Table A3).

Basel II: Some issues, some challenges

Scholars have drawn attention to certain shortcomings of the original Basel II guidelines, on the basis of which individual countries are expected to build their regulatory guidelines. In particular, many scholars have pointed out that linking credit rating to regulatory capital standards may have severe macro-economic implications. As the sovereign ratings of developing and emerging countries are not as high as the industrialized and the high income countries, this will have an unfavourable effect on the credit flows to developing and emerging economies. Empirical studies have pointed out that Basel II may significantly overestimate the risk of international lending to developing economies.[16] Further, credit ratings are found to be pro-cyclical (Ferri et al. 1999, Monfort and Mulder 2000). Credit rating agencies upgrade sovereigns in times of sound market conditions and downgrade in turbulent times. This can potentially add to the dynamics of emerging market crisis. Bank and corporate ratings in emerging countries are linked to their sovereign ratings. In times of crisis, when the need for credit may be imperative, credit flow may diminish due to downgrading of the sovereign (and therefore the bank and corporate) ratings by external rating agencies, leading to banking crisis, in addition to the currency/balance of payments crisis, what Kaminsky and Reinhart (1999) call 'twin crises'. This may have severe impact on the macro-economic stability. For example, Ferri et al. (2000) show that during the East Asian currency crisis of 1997-98, following Moody's downgradation of sovereign ratings for Indonesia, Korea and Thailand, the corporate ratings were also downgraded sharply in these countries, leading to a sharp fall in the international capital flows in the region. Interestingly, even when the sovereign ratings of Korea and Thailand were upgraded in 1999 following the macro-economic recovery, corporate ratings continued to remain 'speculative grade'.

[16] See, for example, Griffith-Jones et al. (2004).

Further, the study also found that in the short term, the ratings of non-high income countries' banks are more sensitive to changes in their sovereign ratings in a noticeably asymmetric manner, i.e. it is more sensitive for sovereign downgrading than sovereign upgrading. Thus, incorporation of external credit ratings into regulatory capital requirement may lead to serious macro-economic instability.

While these concerns remain for the Indian economy in general, several issues specific to India's banking system also arise in the wake of the new regime. In this section, we discuss the issues specific to the banking system of India.

RBI risk-weighing scheme

A look at the RBI's scheme of risk-weighing reveals certain shortcomings. First, RBI's scheme provides much less risk weights to exposures to scheduled commercial banks than exposures to other banks/financial institutions. To be more precise, exposure to scheduled commercial banks with current regulatory level of CRAR will attract a risk-weight of 20 per cent while exposure to non-scheduled banks/financial institutions with same level of CRAR will attract 100 per cent risk-weight. This is discriminatory not only against non-scheduled banks of sound financial health, but also against cooperative banks and micro-finance institutions that cater to a large number of urban and rural poor in India. Second, RBI's scheme encourages borrowers to remain unrated rather than rated below a certain level (see Tables A2 and A3 in Appendix). A rating of B- and below will have a higher risk-weight of 150 per cent, while an unrated entity will have a risk-weight of 100 per cent. If borrowers consequently choose to remain unrated, then they would receive a risk-weight of 100 per cent under Basel II which is same as under Basel I, thus leading to no significant improvement in the risk-weighted asset calculation.

Issues on credit rating industry

As the SA approach of credit risk is dependent on linking risk weights to the credit ratings of an external rating agency, credit ratings are being institutionalized into the regulatory framework of banking supervision. This raises four important issues that need to be looked into. These are – the quality of credit rating in India, the level of penetration of credit rating, lack of issuer ratings in India and last but not the least, the effect of the credit rating scheme on Small and Medium Enterprises (SMEs) and Small Scale Industry (SSI) lending. In this section we elaborate each of them.

The credit rating industry in India presently consists of four agencies: Credit Rating Information Services of India Limited (CRISIL), Investment Information and Credit Rating Agency of India (ICRA), Credit Analysis & Research Limited (CARE) and Fitch India.[17] These agencies provide credit ratings for different types of debt instruments of

[17] CRISIL is the oldest and largest agency, with about 60 per cent of the total market share in 2006. A subsidiary of Standard & Poor's, CRISIL was incorporated in 1987. ICRA, an associate of Moody's Investors Service, was established in 1991 and CARE was established in 1993. Fitch Ratings India Private Limited, formerly known as Duff & Phelps Credit Rating India Private Ltd. prior to 2001, is a wholly-owned subsidiary of the Fitch group that started operating in India since 1996.

short and long terms of various corporations. Very recently, they have also commenced credit rating for SMEs. Apart from that, ICRA and CARE also provide credit rating for issuers of debt instruments, including private companies, municipal bodies and State governments.

Basel guidelines entrust the national banking supervisors with the responsibility to identify credit rating agencies for assessing borrowers. RBI has recognized all four credit rating agencies as eligible for the purposes of risk-weighting banks' claims for capital adequacy. Further, the following international rating agencies are recognized for risk-weighing claims on foreign entities: Fitch, Moody's and Standard & Poor's (RBI 2007b). Further, RBI has recommended the use of only 'solicited' ratings.

Credit rating quality: The literature on India's credit rating industry is scanty. However, the few studies available point to the low and unsatisfactory quality. In Gill (2005), ICRA's performance in terms of credit rating and provision of timely and complete information on the rated companies has been studied. Analysing the ICRA ratings for the period 1995-2002, the study finds that many of the debt issues that defaulted during the period were placed in ICRA's 'investment grade' until just before being dropped to the 'default grade'. These were not gradually downgraded, rather they were suddenly dumped into 'default grade' at the last moment from an 'investment grade' category. Further some defaulting issues were continuously reaffirmed as investment grade. In previous studies, Raghunathan and Varma (1992; 1993) evaluated the ratings published by CRISIL in India and found that CRISIL ratings not only do not adequately reflect the financial ratios of the rated entity, but also are internally inconsistent. In these studies, CRISIL ratings were found to be very liberal by international standards. For example, what CRISIL rated as AAA would usually receive a rating of BBB or lower by international standards. Further, companies rated in the same category by CRISIL reflected a wide variety of credit-worthiness, implying the lack of discriminatory power of the ratings vis-à-vis the credit-worthiness of the entities in the same rating category.

The literature on credit rating identifies lack of 'unsolicited' rating as an important factor leading to poor quality of credit rating.[18] In India all ratings are 'solicited', i.e. all ratings are paid for by the rated entity. This creates a conflict of interest on the part of the rating agency since it is dependent on the fees of the rated entity for its business. Thus, credit rating industry in India is driven mostly by the rated entities. Under the present system, issuers of bond/debt instruments may go to any number of agencies for a rating of their bonds/debt instruments and have the right to accept or reject the rating. Further, the rating cannot be published unless accepted by the issuer.

Thus, while RBI has recognized all four credit rating agencies as eligible for the purpose of capital adequacy norm, one is faced with the lack of objective assessment of the quality of these agencies. The few available studies indicate poor track record of the credit rating quality in India. In addition to this, RBI's recommendation for use of only solicited ratings causes some concern, owing to the problem of moral hazard.

[18] See, for example, Hill (2004)

Low penetration of credit rating: The second important issue in India's credit rating industry is the low penetration of credit rating in India. A study in 1999 revealed that out of 9,640 borrowers enjoying fund-based working capital facilities from banks, only 300 were rated by major agencies.[19] As far as individual investors are concerned, the level of confidence on credit rating in India is very low. In an all-India survey of investor preference in 1997, it was found that about 41.29 per cent of the respondents (out of a total number of 2,819 respondents) of all income classes were not aware of any credit rating agency in India; and of those who were aware, about 66 per cent had no or low confidence in the ratings given by credit rating agencies (Gupta et al. 2001). The legitimacy brought about by Basel II for credit ratings of borrowers will definitely increase the penetration of the industry. However, until such time, most loans will be given 100 per cent risk weightage (since an unrated claim gets 100 per cent weightage); thus leading to no significant improvement of Basel II over Basel I.

Issuer ratings: Presently credit rating in India is restricted to 'issues' (the instruments) rather than to 'issuers'. Ratings to issuers become important as the loans by corporate bodies and SMEs are to be weighted as per their ratings. Of late agencies like ICRA and CARE have launched issuer ratings for corporations, municipal bodies and the State government bodies. Further, all agencies, with direct support from the Government of India, have launched SMEs rating. Until such efforts pick up rapidly, issuers will be assigned 100 per cent weightage, leading to no improvement in the risk-sensitive calculation of the loans. Thus, in this account too, the implementation of Basel II would not lead to significant improvement over Basel I.

Effects on SMEs and SSI lending[20]: Besides agriculture and other social sectors, Small Scale Industry is treated as a priority lending sector by RBI.[21] SSI accounts for nearly 95 per cent of industrial units in India, 40 per cent of the total industrial production, 35 per cent of the total export and 7 per cent of GDP of India. In spite of its importance on Indian economy, SSI receives only about 10 per cent of bank credit (Table A4 in Appendix). As banking reforms have progressed, credit to SSI has fallen. The SSI sector in India is so far out of the reach of the credit rating industry. Under the proposed Basel II norms, banks will be discouraged to lend to SSI that is not rated because a loan to unrated entity will attract 100 per cent risk-weight. Thus, bank lending to this sector may further go down.

In a recent initiative to promote credit rating of SMEs including SSI, the Government of India had launched SMEs Rating Agency (SMERA) in September 2005. It is a joint initiative of Small Industries Development Bank of India (SIDBI), Dun and Bradstreet Information Services India (D&B), Credit Information Bureau India Limited (CIBIL) and

---

[19] Leeladhar (2005).

[20] Industrial classifications of India are formally divided into Large/Medium industry and Small industry. Due to this structure, the term 'SMEs' is not defined formally and properly in India. With regard to SSI, see Nikaido (2004).

[21] The directed credit for commercial banks was introduced in 1974 and currently banks are asked to allocate 40 per cent of their credit to the priority sector.

16 major banks in India. Apart from SMERA, other rating agencies have also launched SMEs rating.

As an incentive to get credit rating, Government of India currently provides a subsidy of 75 per cent of the rating fees to SMEs who get a rating. Net of this subsidy, the rating fees for SMEs with annual turnover of less than Rs. 50 lakh are as follows: Rs. 19,896 for a rating by CRISIL, Rs. 19,896 for a rating by ICRA, Rs. 7,400 for a rating by CARE and Rs. 22,141 for a rating by Fitch India. Without the subsidy, the fees are: Rs. 40,000 for CRISIL, Rs. 40,000 for ICRA, Rs. 29,600 for CARE and Rs. 42,000 for Fitch India.

According to the Third All India Census of SSI conducted during 2001-02 by the Ministry of Micro, Small and Medium Enterprises, average output per unit of SSI in India in 2001-02 was about Rs. 4 lakh.[22] Thus, with the subsidy, SSI units will have to spend 2-5 per cent of their output as fees for credit rating. Without the subsidy, the percentage of fees to output is in the range of 7-11 per cent. This additional cost of credit rating is bound to affect the economic viability of a large number of SSI units.

While introduction of credit rating for the SMEs (including SSIs) may, in the long run, improve the accounting practices of the SSI, there is also a possibility that SMEs will continue to rely on the existing system of informal credit as formal credit is likely to become more expensive due to the credit rating requirement of Basel II.

Other issues

Extensive data requirement: Implementation of Basel II, particularly the advanced approaches like the IRB for credit risk and AMA for operational risk would require a huge amount of data for model building and validation. A large number of banks in India lack reliable historical data due to late computerization. Data on losses due to 'operational risk' are currently non-existent. The lack of good quality historical data on credit, market and operational risks may make migration towards the more advanced approaches of risk management slow.

Implementation cost: Basel II will lead to increased level of capital requirements for banks due to incorporation of capital charges for operational risk in addition to credit and market risks. According to the recent (April 2007) RBI circular, banks will have to increase their tier I capital by about Rs. 512,550 million within March 2009, including raising Rs. 455,210 million from the capital market to meet the Basel II requirements of increased capital. These figures were arrived at after conducting a simulation study of 50 public and private sector banks, consisting of 19 nationalised banks, SBI and its 7 associates, 7 new private banks and 16 old private sector banks. Among themselves, the 19 nationalised banks will have to raise Rs. 212,110 million while the 8 SBI group banks will have to raise an estimated Rs. 100,700 million. The 7 new private banks will have to

[22] Ministry of Small Scale Industries was renamed as the Ministry of Micro, Small and Medium Enterprises since Micro, Small and Medium Enterprises (MSME) development Act, 2006. See following website: http://www.smallindustryindia.com/ssiindia/census/ch8.htm.

raise Rs. 160,380 million while the equity requirement of the 16 old private banks has been estimated at Rs. 39,360 million.[23]

Further, extensive data requirements, upgradation of technical infrastructure, capacity building and human resource development will translate into very high implementation cost. A Bank of International Settlements (BIS) observation in 2004 indicated that *"Asian banks are expected to spend between 7 to 10 per cent of their global IT and business operations budget on Basel II compliance for the next four to six years."*[24]

The increased capital requirements and the huge implementation costs are likely to pose a great challenge in the path of India's move towards Basel II. This may in fact trigger a round of consolidation in Indian banking industry in the coming years.

5 Observations and Concluding Remarks

In this article, we have attempted to review the capital adequacy regime in India. In particular our focus is on the present state of capital to risk-weighted asset ratios of the banking sector. We have observed that with respect to the current regime of capital standards, the Basel I, India's banking industry is performing reasonably well, with an average CRAR of about 12 per cent, which is not only higher than the internationally acceptable level of 8 per cent, but also higher than India's own regulatory requirement of 9 per cent.

The RBI has announced that the Indian banking sector should implement the revised capital adequacy norms, Basel II, by March 2008. We have discussed the limitations in the RBI's guidelines on Basel II implementation. Under the Basel II guidelines, the credit rating agencies will play a prominent role in determining regulatory risk capital. The main concerns are the unsatisfactory performance of the credit rating industry in India, the low credit rating penetration and the high costs of credit rating especially for SMEs. Further, the increased requirement of tier I capital, the high cost of implementation and the requirement of extensive data and software for implementation of Basel II will, in our view, pose a major challenge in India's migration towards Basel II regime. We have argued that if these issues are not tackled up front, then the end result would be no different from the current Basel I norms, albeit at higher cost.

Despite these challenges, in a globalizing financial system, India will not be able to do away with the recent international developments such as Basel II. In the long run, adherence to Basel II by Indian banks will result in improved accounting, risk management and supervisory principles that are in line with internationally accepted best practices. While the Basel II regime provides the credit rating industry with an opportunity in terms of business expansion, it needs to be seen if the industry is able to perform in terms of the key principles of objectivity, independence, transparency,

[23] Business Lines, April 19, 2007.
[24] *Basel II Framework and India: Compliance Vs. Opportunity*, IBS-IBA Special Report 2004.

disclosure, resources and credibility. We argue that solicited ratings scheme is an impediment towards this goal.

Since development of IT infrastructure is very crucial to Basel II implementation, India's growing IT industry is likely to benefit from the increased business opportunities in the long run. Processes such as data analysis, model building and model validation are likely to be outsourced to the BPO (Business Process Outsourcing) sector, increasing the role of by now mature BPO industry in India. Thus, in the long run, adherence to Basel II regime is expected to benefit not only the banking industry, but also several other sectors of Indian economy, such as the credit rating industry, the IT industry and the BPO industry.

Reference:

Bailey, R (2005), "Basel II and Development Countries: Understanding the Implications", *London School of Economics Working Paper* No. 05-71.

Basel Committee on Banking Supervision (1988), "International Convergence of Capital Measurement and Capital Standards", available at www.bis.org

Basel Committee on Banking Supervision (1996), "Amendment to the Capital Accord to incorporate market risks" available at www.bis.org

Basel Committee on Banking Supervision (2006), "International Convergence of Capital Measurement and Capital Standards: A Revised Framework", available at www.bis.org

Ferri, G., L. Liu and J.E. Stiglitz (1999), "The Procyclical Role of Rating Agencies: Evidence from the East Asian Countries" *Economic Notes*, 28 (3), pp. 335-355.

Ferri, G., L. Liu and G. Majnoni (2000), "How the Proposed Basel Guidelines on Rating-Agency Assessments Would Affect Developing Countries", *Policy Research Working Paper* 2369, The World Bank.

Financial Stability Institute (2006), "Implementation of the new capital adequacy framework in non-Basel Committee member countries: Summary of responses to the 2006 follow-up Questionnaire on Basel II implementation", *Occasional Paper* 6, available at www.bis.org

Ghosh, S. and D.M. Nachane (2003), "Are Basel Capital Standards Pro-cyclical? Some Empirical Evidence from India", *Economic and Political Weekly,* 38(8), pp. 777-783

Gill, S. (2005), "An Analysis of Defaults of Long-term Rated Debts", *Vikalpa* 30 (1), pp. 35-50

Griffith-Jones, S., M. Sefoviano and S. Spratt (2002), "Basel II and Developing Countries: Diversification and Portfolio Effects", *Working Paper of Institute of Development Studies,* University of Sussex available at http://www.ids.ac.uk/ids/global/pdfs/FINALBasel-diversification2.pdf

Gupta, L.C., C P. Gupta and N. Jain (2001), *Indian Households' Investment Preferences: The Third All-India Survey*, Society for Capital Market Research and Development, New Delhi

Hill, C. (2004), "Regulating the Rating Agencies", *Washington University Law Quarterly,* 82(43), pp. 43-95

Joshi, V. and I.M.D. Little (1996), *India's Economic Reforms 1991-2001*, Delhi, Oxford University Press.

Kaminsky, G.L. and C.M. Reinhart (1999), "The Twin Crises: The Causes of Banking and Balance-Of-Payments Problems", *the American Economic Review*, 89 (3), pp. 473-500

McKinnon, R.I. (1973), *Money and Capital in Economic Development*, Washington D.C, Brookings Institutions.

Leeladhar, V. (2006), "Demystifying Basel II", *Reserve bank of India Bulletin* October 2006, pp. 1153-1157

Monfort, B. and C. Mulder (2000), "The Impact of Using Sovereign Ratings by Credit Rating Agencies on the Capital Requirements for Banks: A Study of Emerging Market Economies", *IMF Working Paper* WP/00/69, March

Nachane, D.M., S. Ghosh and P. Ray (2006), "Basel II and Bank Lending Behaviour: Some Likely Implications for Monetary Policy", *Economic and Political Weekly*, 41(11), pp. 1053-1058

Nitsure, R.R. (2005), "Basel II Norms: Emerging Market Perspective with Indian Focus", *Economic and Political Weekly*, 40(12), pp. 1162-1166

Nikaido, Y. (2004), "Technical Efficiency of Small-Scale Industry-Application of Stochastic Production Frontier Model", *Economic and Political Weekly*, 39(6), pp. 592-597

Raghunathan, V. and J.R. Varma (1992), "CRISIL Rating: When Does AAA Mean B?", *Vikalpa* 17 (2), pp. 35 -42

Raghunathan, V. and J.R. Varma (1993), "When AAA Means B: The State of Credit Rating in India", *IIM Ahmedabad Working Paper*.

Reddy, Y.V. (2006), "Challenges and Implications of Basel II for Asia", *BIS Review* 37/2006 available at www.bis.org

Reserve Bank of India (2005a), "Draft Guidelines for Implementation of the New Capital Adequacy Framework", *RBI Circular* DBOD No. BP. 1163/21.04.118/2004-05

Reserve Bank of India (2005b), "Reserve Bank of India Annual Report 2004-05", available at www.rbi.org.in

Reserve Bank of India (2006), "Reserve Bank of India Annual Report 2005 -06", available at www.rbi.org.in

Reserve Bank of India (2007a), "Revised Draft Guidelines for Implementation of the New Capital Adequacy Framework", *RBI Circular* DBOD No. BP. 1151/21.06.001/2006-07

Reserve Bank of India (2007b), "Guidelines for Implementation of the New Capital Adequacy Framework", *RBI Circular* DBOD. No. BP. BC. 90 / 20.06.001/ 2006-07

Appendix

Table A 1: Risk weights of asset categories under Basel I

Risk weight	Asset category (on-balance-sheet asset)
0%	Cash
	Claims on central govts. and central banks denominated in national currency and funded in that currency
	Other claims on OECD central govts. and central banks
	Claims collateralised by cash of OECD centrral govts. securities or guranteed by OECD central govts
10,20 or 50% (at the discretion of national authorities)	Claims on domestic public sector entities, excluding central govt, and loans guranteed by or collateralised by securities issues by such entities
20%	Claims on multilateral development banks and claims guranteed by or collateralised by securities issued by such banks
	Claims on banks incorporated in the OECD and claims guranteed by OECD incorporated banks
	Claims on securities firms incorporated in the OECD subject to comparable supervisory and regulatory arrangements.
	Claims on banks incorporated in countries outside the OECD with a residual maturity upto one year and claims with a residual maturity of up to one year guranteed by banks incorporated in countries outside the OECD
	Claims on non-domestic OECD public sector entities, excluding central govts; and claims guranteed by or collateralised by securities issued by such entities
	Cash items in process of collection
50%	Loans fully secured by mortgage on residential property that is or will be occupied by the borrower or that is rented
100%	Claims to private sector
	Claims on banks incorporated outside the OECD with a residual maturity of over one year
	Claims on central governments outside the OECD (unless denominated in the national currency and funded in that currency)
	Claims on commercial companies owned by the public sector
	Premises, plant and equipment and other fixed assets
	Real estate and other investments
	Capital instruments issued by other banks
	All other assets

Source: BIS (1988), Basel Capital Accord, Updated to April 1998

Table A 2: RBI's Risk-weights for SA of Basel II: Claims on Indian Entities

Category	Risk Weights (%)
Sovereigns	
Central Govt. (direct and guarantee)	0
State Govt. (direct exposure)	0
State Govt. (guarantee exposure)	20
Reserve Bank of India	0
Deposit Insurance and Credit Guarantee Corporation	0
Credit Guarantee Fund Trust for Small Industries	0
Export Credit Guarantee Corporation	20
Schedule Commercial Banks with CRAR (%) level	
>= 9	20
6 to < 9	50
3 to <6	100
0 to < 3	150
negative	625
Other Banks with CRAR (%) level	
>= 9	100
6 to < 9	150
3 to <6	250
0 to < 3	350
negative	625
Corporates: Long term (L.T.) and short term (S. T.)	
L. T. Rated: AAA and S.T. Rated: PR1+, P1+, F1+, A1+	20
L.T. Rated : AA and S.T. Rated: PR1,P1,F1,A1	30
L. T. Rated A and S. T. Rated PR2, P2, F2, A2	50
L. T. BBB and S.T. Rated PR3, P3, F3, A3	100
L.T. Rated BB & below and S.T. Rated PR4,PR5, P4,P5,B,C,D,A4,A5	150
Unrated	100
Regulatory retail portfolio	75
Loans secured by residential property	
Upto Rs. 20 lakh	50
Rs. 20 lakh and above	75
Commercial real estate exposure	150
NPAs with specific provision of	
< 20% of outstanding amount	150
>= 20% of outstanding amount	100
>= 50% of outstanding amount	50
Banks' own staff	
covered by superannuation benefit/ mortgage of house	20
otherwise	75
Personal loans and credit card receivables	125
Capital market exposure	125
All other assets	100

Source: RBI (2007b)

Table A 3: RBI's Risk-weights for SA of Basel II: Claims on Foreign Entities

Credit Rate		Risk Weight		
S&P/Fitch	Moody's	Sovereign	Corporates and PSEs	Banks
AAA to AA-	Aaa to Aa	0	20	20
A+ to A_	A	20	50	50
BBB+ to BBB-	Baa	50	100	50
BB+ to B-	Ba to B	100	150	100
Below B -	Below B	150		150
Unrated	Unrated	100	100	100
Claims on BIS, IMF, World Bank, IMF, ADB etc.		20		

Source: RBI (2007b)

Table A 4: Priority sector lending by Scheduled Commercial Banks (SCB)

(Unit: % to net bank credit)

SCB	Target	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006*
Public Sector Banks	Priority Sector	36.6	37.8	41.7	41.8	39.2	40.2	43.7	43.1	41.2	43.6	42.8	40.3
	SSI	15.3	16.0	16.6	17.5	16.1	14.6	14.2	12.5	10.8	10.4	9.5	8.1
Private Sector Banks	Priority Sector	n.a	34.0	41.2	40.9	38.0	38.2	40.9	40.9	44.4	47.3	43.6	42.8
	SSI	n.a	18.8	22.2	20.6	16.5	14.4	13.7	13.7	8.2	7.3	5.4	4.2
Note: * provisional													

Source: RBI, Report on Trend and Progress of Banking in India, various issues.

LATEST ICRIER'S WORKING PAPERS

NO.	TITLE	AUTHOR	YEAR
195	OECD AGRICULTURAL TRADE REFORMS IMPACT ON INDIA'S PRICES AND PRODUCERS WELFARE	SURABHI MITTAL	JULY 2007
194	IMPACT OF SPECIAL ECONOMIC ZONES ON EMPLOYMENT, POVERTY AND HUMAN DEVELOPMENT	ARADHNA AGGARWAL	MAY 2007
193	TECHNOLOGICAL CAPABILITY AS A DETERMINANT OF FDI INFLOWS: EVIDENCE FROM DEVELOPING ASIA & INDIA	AMITENDU PALIT SHOUNKIE NAWANI	APRIL 2007
192	INDO-U.S. FTA: PROSPECTS FOR AUDIOVISUAL SERVICES	ARPITA MUKHERJEE PARAMITA DEB GUPTA PRERNA AHUJA	FEBRUARY 2007
191	DOES CAPITAL ACCOUNT OPENNESS LOWER INFLATION?	ABHIJIT SEN GUPTA	JANUARY 2007
190	INDO-US FTA : PROSPECTUS FOR THE TELECOMMUNICATION SECTOR	ARPITA MUKHERJEE PRERNA AHUJA	DECEMBER 2006
189	AN ANALYSIS OF THE SPECIAL SAFEGUARD MECHANISMS IN THE DOHA ROUND OF NEGOTIATIONS *A PROPOSED PRICE-TRIGGER-BASED SAFEGUARD MECHANISM*	PARTHAPRATIM PAL DEEPIKA WADHWA	OCTOBER 2006
188	THE DEBATE ON THE POVERTY ESTIMATES OF 1999–2000	K. L. DATTA	OCTOBER 2006
187	PROSPECTS FOR IT-ENABLED SERVICES UNDER A INDO-US FTA	ARPITA MUKHERJEE PARAMITA DEB GUPTA	SEPTEMBER 2006
186	ASIAN ECONOMIC INTEGRATION *ASEAN+3+1 or ASEAN+1s?*	AMITA BATRA	SEPTEMBER 2006

About ICRIER

ICRIER, established in August, 1981, has successfully completed its 25 years, as an autonomous, policy oriented, not-for-profit research institute. We have nurtured our cherished autonomy by establishing an endowment fund, income from which meets all our administration expenses. ICRIER's offices are located in the prime institutional complex of India Habitat Centre, New Delhi. The prime focus of all our work is to support India's interface with the global economy.

ICRIER's founding Chairman was Dr. K B Lall who led the organization from its inception from 1981 to 1992 when he handed over the Chairmanship to Mr. R N Malhotra (1992-1996). He was followed by Dr. I G Patel who remained Chairman from 1997 to 2005 until his demise in July 2005. ICRIER's current Chairperson is Dr. Isher Judge Ahluwalia.

Amongst ICRIER's founding member are: Dr. Manmohan Singh, Dr. C Rangarjan, Dr. M S Swaminathan, Dr. Jagdish Bhagwati, Mr. Montek Singh Ahluwalia and Mr.Bharat Ram.

ICRIER conducts thematic research on its six thrust areas that are:

- Trade, Openness, Restructuring and Competitiveness
- WTO Related Issues
- Regional and Bilateral Issues
- Financial Liberalization and Integration
- Macroeconomic Management in an Open Economy
- Strategic Aspects of India's External Relations

In addition, ICRIER holds public policy workshops to bring together policy makers, academicians, senior industry representatives, MPs and Media persons to try and forge a consensus on issues of major policy interest. In the effort to better understand global developments and experiences of other economies which have bearing on India's policies and performance, ICRIER invites distinguished scholars and policy makers from around the world to deliver public lectures on economic themes of interest to contemporary India.

ICRIER's highly qualified core team of researchers includes several PhD's from reputed Indian and foreign universities. At present the team has 18 economists. The team is led by Dr. Rajiv Kumar, D.Phil in Economics from Oxford University.